## COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

U. S. Department of Agriculture and State Agricultural Colleges Cooperating

Extension Service, Office of Cooperative Extension Work, Washington, D. C.

ECONOMIC INFORMATION IN A COORDINATED AGRICULTURAL PROGRAM\*

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Economic information deals directly with demand and supply as they relate to the determination of the price of farm products. The data may show long-time trends, such as population increase and total production of food. They may show seasonal demand and supply or day to day variations in price. Economic information is necessary to decide intelligently to farm or not to farm; to buy a farm or to rent one; to have more or less acres in corn, potatoes, wheat or oats; to produce more or less pork, beef, dairy or poultry products. In a word what to produce in kind, quality and amount and when and how to market these farm products to obtain the highest net income for the year.

The most certain feature of economic conditions is that they change from day to day and from decade to decade. Economic law is just as immutable as natural law. The economic forces which determine price are as constant as the forces of gravitation. As man gains power over economic and natural laws he does not destroy them. He merely puts in motion other forces which tend to equal these existing forces when unopposed to act freely.

Low or efficient cost of production determines where the quantity needed will be produced but it does not determine the sales price. Eventually low cost producers will get a fair place as high cost producers are forced out of the business. Knowing the demand and the probable supply of farm products the marginal or high cost producer is able to adjust his acreages and livestock enterprises to produce what the market price justifies.

Economic information is needed in a competitive industry which in this country alone is scattered over six and a half million farms. Unless the individual farmer has some idea of what the market requires and what other farmers are doing, he is striking in the dark in his farming plans.

The present agricultural situation affords ample proof that agriculture as an industry does not have a coordinated program and has not attained the rank of a business. A business requires something more than

DISTRIBUTION: A copy of this pamphlet has been sent to extension directors marketing extension specialists, and State county agent leaders.

<sup>\*</sup>Address presented before the Central States Extension Conference, Purdue University, La Fayette, Ind., April 24 to 26, 1929.

efficient production. Within the last ten years the average production per man in agriculture has increased somewhere in the neighborhood of twenty-five per cent. During this same decade the returns from farming have been less than half the mortgage rate of interest on a diminishing capitalization of less than three-fourths the 1920 price of land. Increased efficiency for the time being appears to be a curse to the industry as a whole, for it has resulted in a twelve per cent increase in the average annual crop and live-stock production without a corresponding increase in domestic and foreign demand.

The self-sufficing farmer struggled against natural and economic laws and obtained a meager living from the farm. The commercial farmer of today specializes in products adapted to his soil and climate but he must not overlook market needs. Otherwise waste of farm products and poverty are the inevitable result.

The limitations of the use of economic information is admitted by the specialists in this field. It is well recognized that "other factors beside the immediate or the long-time price outlook must be considered in planning a farming system for a year or a period of years. The resources and possibilities of a particular farm, its adaptability to different crops and kinds of livestock and the way in which the different lines of production can be fitted together must be taken into account."

Dean Thomas Cooper closes his discussion of "Encouraging the Use of Outlook Material" with a timely warning. The great danger in the presentation of outlook material is over-enthusiasm as to its value. The tendency is to consider it as having a blanket application and to particularize as to individual farmers in such a manner as to encourage the farmer to cease to do his own thinking. It is of the utmost importance that material be presented and that our farmers be encouraged to consider the facts, then to reach, and act upon, their own conclusion. It is through such thought and action on the part of individuals that we may best develop a stable agriculture."

One of the most important considerations of economic information is its accuracy and reliability. Dr. O. C. Stine, of the Bureau of Agricultural Economics, in his paper entitled "Progress in Price Analysis" gives the forty-seven months experience in forecasting of R. M. Greene of Kansas; more than four years experience in the Bureau of Agricultural Economics or of other agencies. His summary follows - "I believe that the experiences which I have described are sufficient to warrant the conclusion that the trend a year ahead, the monthly or seasonal, and in some cases the weekly price changes can be forecasted by fairly well-trained statistical economists with an expectation of about eighty to ninety per cent accuracy."

He continues - "What degree of accuracy reasonably may be required to justify public support of price forecasting? Obviously one hundred per

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cent can not be required, and chance will give fifty per cent accuracy."

Dr. Stine then compares the accuracy of price forecasting with weather forecasting. "According to the Weather Bureau, the forecasts of weather in the Washington District in the period 1915-19 were about eighty-five per cent correct for the thirty-six-hour period following the forecast." Dr. Stine well points out that the weather service has been established for many years and is generally considered to be a valuable service. "That prices for the ordinary man are about as difficult to forecast as the weather and that he is as much interested in the price as the weather through the growing and harvesting season."

Dr. Stine concludes with the significant statement "that enough is now known about what makes prices to enable competent analysts to forecast with confidence that the price forecasts are likely to be accurate enough to be useful to farmers in planning production and marketing, and that this will tend to reduce fluctuations in production and in price to the advantage of both the producer and the consumer."

Remarkable progress has been made by the Bureau of Agriculture and many State institutions in the collection and dissemination of outlook and current economic information. Farmers of this country have a vital interest in foreign market conditions and the prospect for agricultural production in foreign countries. According to the present Chief of the Bureau of Agricultural Economics about "ninety per cent of the products that the farmers of the United States market is directly affected by foreign production, marketed either in foreign markets to which we export or into domestic markets into which we import some part of the products which we consume. The producers of one-half of all our farm products have to look to foreigh markets for an outlet for some part of their products." Mr. Olsen continues, "Nearly all products, whether sold in the domestic or the foreign market, have their values determined in large part by conditions prevailing in foreign countries." Most farmers are not interested in hog production in Germany or corn production in the Danube Basin. They are concerned with "When should I sell" and "What will the price be. They do not realize they must plan one year ahead when deciding how many sows should be bred.

Considerable research is necessary not only in foreign countries but in each type of farming area in this country if we are to offer basic information as a guide to production and marketing. According to J. W. Tapp, formerly connected with the Bureau of Agricultural Economics, "If we are to make continued progress in the improvement of agricultural conditions, greater emphasis must be placed upon those phases of the problem which involves a more intelligent planning of production and marketing." He continues, "In view of the progress made in five years it is not reflection upon the character of the work now being done to say that it is still in its infancy; that the problems ahead are more difficult than those which have been partially or largely solved; that our basis of fundamental information is often weak or at many points totally lacking; and that both in the field of research and extension the difficulties involved in the selection, and training of personnel are appalling."

Continuing on, "The problems of local application and interpretation require research to indicate the type of action that is likely to be most profitable in view of the immediate and longtime prospects. What is needed most of all in this connection, perhaps is a more accurate knowledge of types of farming and of type-of-farming areas." During the past five years notable progress has been made by the Bureau and some State agencies in delineating types-of-farming areas. Mr. Tapp continues, "Briefly the method suggested calls for the determination of 'typical' or 'representative' farming systems in each area. These are arrived at after a careful study of arrays of a complete sample of the farms in one or more townships in the area."

"If the selection is well made the application of the conception of the 'representative' farm will be found most helpful in considering the effect of probable price changes upon the relative profitableness of the different farming systems. It seems reasonable to expect that a careful interpretation of the annual outlook in terms of its effect upon the various typical or 'representative' farms should offer the best approximation that we may expect to be able to make, for some years at least, toward providing farmers with definite interpretations of outlook data in terms of practical farm management. Mr. Tapp emphasizes that it is not the intent to substitute the recommendations of some research specialists for the judgment of the farmer as to what is best for him to do on his own farm. It is rather for him to indicate more definitely than has been done in the past how the various systems of farming are likely to be affected by prospective changes in supply, demand and prices. The evidence upon which the interpretation is based should always be given. The farmer must naturally retain the responsibility for working out the decision as to what he can do to best advantage on his own farm.

The necessity for the long-time outlook in making production plans as distinct from the year to year prospects should not be minimized. Many of the farmer's production plans must be made years in advance and can not be changed at will. Facts essential to plans of this type should receive special consideration. Mr. Tapp's summary, "For a somewhat automatic cyclical basis of forecasting now rather prevalent there should eventually be substituted a conscious program for agricultural production predicated upon a more complete knowledge of the essential facts and designed to give more stability to production."

Long-time trends at our present rate of increase in the supply and in the demand for farm products indicate a probable surplus for the next ten years. The major crop acreages in corn, cotton, wheat, oats, and hay will furnish a surplus. A well balanced production in all other crops may be obtained in the light of economic information by slightly increasing the acreage of the five major crops. The large acreage of sub-marginal land in use and the large potential supply available by drainage, clearing and by reclamation forms a measee to coordinated program of profitable agriculture.

The acreage of major crops can be controlled by a land classification plan. This will utilize land for forestry, pasture, and improved land according to the economic needs. No plan for the stabilization of the production and the prices of farm products can be effective for the five major products, which occupy eighty-eight per cent of the total crop area, until agricultural land is utilized more nearly according to its economic needs. The rapid decline in the price of farm land and the high price for man labor point in the direction of the necessity for more tillable land being converted into permanent pastures and the reforestation of much pasture land.

The problem of getting the farmer to take economic information and use it is well presented in a paper by V. B. Hart of Cornell University. The best way in which to prepare a group of farmers or an individual for understanding outlook material is by the liberal use of lectures and discussions on the history of prices and the economic principles underlying price changes." For this purpose Professor Hart uses a set of price charts. The first step in the usual procedure in giving a price lecture is to explain and discuss the general price level. Professor Hart follows the horse and hog cycles, with a chart showing farm prices and general price level for recent years. He thinks it unnecessary to explain index numbers to farmers, for they readily assume that index number curves represent how high prices are as compared with 1910-1914 as a base. He interests the farmers in economic information by presenting the price curves of the individual farm products. Having been acquainted in the wide fluctuations in the potato curve, the grower is ready for a discussion on the present potato outlook or on reports of intentions to plant.

Professor Hart strongly urges the need for giving out continuous economic information throughout the year rather than attempting to give one big dose at the time of publishing the outlook. The following means are used of presenting economic information: Extension schools, Community meetings, Institutes, Correspondence courses, Farm Management tours, Four-H Farm Management clubs, Farm Business Service, Special farm account schools, Banker-farmer-merchant conferences, feed dealers schools, lectures to service clubs, Inventory and credit statement campaigns, Key banker service letters, Marketing trips, Agricultural conference boards, Fair exhibits, Emergency economic meetings, Community surveys, farmers! week, Farm economics publication, the Market Basket publication, Extension Service news, and press articles.

Professor Hart cites convincing illustrations of the folly of fore-casting prices in Extension work and closes his excellent paper with the following: "In the opinion of the writer the major part of the outlook work should be confined to presenting data on size and movement of crops, intentions to plant, cycles in animal production, changes in the supply and demand for farm products and farm supplies, and the trends in the costs of the factors of production. When such material, based on the ever-necessary and ever-important sound research, has been presented in a way which the farmer understands, the obligation of both the research and the extension workers has been fulfilled and further responsibility for adjusting farm business to meet the future rests with the individual farmer."

In conclusion I wish to quote what I regard as a sound statement from Dean Thomas Cooper, "We look forward to the time when agriculture, with its numerous units, will accept the results of research as a basis upon which to determine its attempted production. The very difficulty of attaining the objective is challenging. While the acceptance and application of outlook work by the mass of farmers may be many years in the future, yet it should be the purpose to go forward with research and the promulgation of fact until few, if any persons on farms can say 'they did not know nor had no opportunity of knowing'."